

King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics

**SYLLABUS**

Semester I, 2008-2009 (081)

Coordinator: Dr. Muhammad A. Bokhari

**Course #:** Math 201  
**Title:** Calculus III  
**Textbook:** Calculus (Early Transcendentals): by James Stewart; **Fifth edition (2003)**  
**Course Description:** The concepts studied in Math 201 include solid analytic geometry, vectors and surfaces, differentiation of functions of several variables and multiple integrals.

Week	Date	Sec. #	Topics
1	Oct 11-15	10.1 10.2	Curves Defined by Parametric Equations Calculus with Parametric Curves
2	Oct 18-22	10.3 10.4	Polar Coordinates Areas and Lengths in Polar Coordinates
3	Oct 25-29	12.1 12.2 12.3	Three-Dimensional Coordinate Systems Vectors The Dot Product
4	Nov 01- 05	12.4 12.5	The Cross Product ( <b>End of Exam I Material</b> ) Equations of Lines and Planes
5	Nov 08- 12	12.6 12.7	Cylinders and Quadric Surfaces Cylindrical and Spherical Coordinates
<b>No Class on Monday, November 10</b>			
<b>Major Exam I: Monday, November 10, 2008, Bldg. 54, Exam I Material: 10.1-12.5</b>			
6	Nov 15-19	12.7 14.1 14.2	Cylindrical and Spherical Coordinates (Contd.) Functions of Several Variables Limits and Continuity
7	Nov 22-26	14.2 14.3	Limits and Continuity (Contd.) Partial Derivatives
8	Nov29-Dec 01	14.4 14.5	Tangent Planes & Linear Approximation The Chain Rule
<b>Dec 03-13: Id al-Adha Vacation</b>			
9	Dec 14-18*	14.6 14.7	Directional Derivatives and the Gradient Vector Maximum and Minimum Values
10	Dec 20-24	14.7 14.8	Max. and Min. Values (Contd.) ( <b>End of Exam II Material</b> ) Lagrange Multipliers
11	Dec 27-31	15.1 15.2	Double Integrals over Rectangles Iterated Integrals
<b>No Class on Monday, December 29</b>			
<b>Major Exam II: Monday, December 29, 2008, Bldg. 54, Exam II Material: 12.5-14.7</b>			
12	Jan 03-07	15.2 15.3	Iterated Integrals (Contd.) Double Integrals over General Regions
13	Jan 10-14	15.3 15.4	Double Integrals over General Regions (Contd.) Double Integrals in Polar Coordinates
14	Jan 17-21	15.7 15.8	Triple Integrals Integrals in Cylindrical and Spherical Coordinates
15	Jan 24-31		Review/ Catch up
<b>Final Exam will be Comprehensive. The Registrar Office will announce the schedule of final exam</b>			

\* Thursday, December 18: Normal Wednesday classes

- KFUPM policy with respect to attendance will be strictly enforced.
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Math 201, Semester 081  
**Suggested Homework Problems**

<b>Sec. #</b>	<b>Suggested Homework Problems</b>
10.1	2,3,6,11,24,26,28
10.2	5,8,13,36,43
10.3	9,16,22,29,40,48,54
10.4	3,6,8,12,31,35,40
12.1	6,10,14,18,21,23,25,29,37,41
12.2	1,4,8,18,24,28,32
12.3	1,2,4,8,10,11,14,17,23,37,41,52
12.4	2,9,12,26,33,36,39,45
12.5	1,3,15,16,17,30,38,51,61,73
12.6	2,5,9,11,21-28
12.7	4,10,13,20,23,28,34,36,50
14.1	1,2,6,11,30,32
14.2	3,7,10,11,28,37,39
14.3	1,4,5,16,21,51,66,83
14.4	2,12,16,20,24,31
14.5	4,8,16,17,22,28,36
14.6	3,5,9,15,23,27,36,38,41,48
14.7	1,3,5,11,37
14.8	1,4,10,23,25,39
15.1	3,6,8,12,17
15.2	4,5,8,11,14,19
15.3	3,5,10,16,24,39,43,50,52
15.4	1,3,7,10,18,21,33,36
15.7	3,8,16,23,26,29,31,38
15.8	3,8,9,18,33,36

- The students are strongly urged to solve much more problems than the homework listed above.